City Council Introduction: **Monday**, April 26, 2004 Bill Nos. 04-72 through 04-82
Public Hearing: **Monday**, May 3, 2004, at **5:30** p.m. and Bill Nos. 04R-88 through 04R-91

FACTSHEET

TITLE: **CHANGE OF ZONE NO. 04018,** text amendments to Title 27; **MISCELLANEOUS NO. 04001,** text amendments to Title 26; and **MISCELLANEOUS NO. 04002**, text amendments to the City of Lincoln Design Standards and the Drainage Criteria Manual, requested by the Director of Public Works & Utilities and the Lower Platte South Natural Resources District, to adopt flood standards for New Growth Areas, reflecting the recommendations of the Mayor's Floodplain Task Force.

SPONSOR: Planning Department

BOARD/COMMITTEE: Planning Commission
Public Hearing: 03/31/04
Administrative Action: 03/31/04

RECOMMENDATION: Approval, with two amendments (8-0: Pearson, Carlson, Sunderman, Taylor, Larson, Carroll, Marvin and Bills-Strand voting 'yes'; Krieser absent).

STAFF RECOMMENDATION: Approval.

ASSOCIATED REQUESTS: **Comprehensive Plan Amendment No. 04017** (04R-87).

FINDINGS OF FACT:

1. The proposed ordinances and resolutions set forth above will be listed separately on the Council agenda but are being combined into one factsheet to avoid duplication. This Factsheet shall serve as the record for Bill Nos. 04-72 through 04-82 and 04R-88 through 04R-91.

2. The staff recommendation of approval is based upon the "Analysis" as set forth on p.3-5, concluding that the proposed amendments modify the existing ordinances and standards to reflect the Mayor's Floodplain Task Force report of April, 2003. These amendments only apply to the "New Growth Areas" of Lincoln's three-mile jurisdiction. The subdivision and zoning ordinances are adjusted to have both an "Existing Urban Area" and "New Growth Areas", thus the existing city regulations stay essentially the same and only the defined New Growth Areas are affected. The Design Standards and Drainage Criteria Manual are also being amended to reflect these changes.

3. The applicants' proposal is found on p.7-11. The "Summary of Proposed Flood Standards for New Growth Areas" is found on p.12-15. The "Task Force Recommendations" are found on p.16-36.

4. All correspondence submitted in advance of the Planning Commission hearing is found on p.38-49, including a staff response to questions raised by Douglas Rotthaus, Executive Vice President of the Realtors Association of Lincoln (p.38-42); a staff response to questions raised by Dave Lococo regarding possible impact on construction of the South Beltway (p.43-44); and four electronic messages in support (p.45-49).

5. Comments by the County Engineer received after the Planning Commission hearing are found on p.37.

6. The minutes of the Planning Commission meeting and all exhibits submitted at the public hearing are found on p.50-101. The applicants' presentation is found on p.50-52; the public testimony is found on p.52-65; the response to public testimony by the staff and the Planning Commission discussion with staff is found on p.66-71.

7. On March 31, 2004, the Planning Commission voted 8-0 to recommend approval of the proposed text amendments to the City zoning ordinance, land subdivision ordinance, design standards and drainage criteria manual. The motion included two amendments: revised language in the drainage criteria manual regarding mitigation for stream crossings, and language that would narrow the width of the "minimum flood corridor" along streams that drain less than 150 acres in area (See Minutes, p.72-74). The specific revised language as recommended by the Planning Commission is incorporated into the proposed ordinances and resolutions where appropriate and can be further explained by the applicants.

FACTSHEET PREPARED BY: Jean L. Walker **DATE**: April 19, 2004
REVIEWED BY: _____ **DATE**: April 19, 2004
REFERENCE NUMBER: FS\CC\2004\CZ.04018-Flood Standards

LINCOLN/LANCASTER COUNTY PLANNING STAFF REPORT

for March 31, 2004 PLANNING COMMISSION MEETING

This is a combined staff report for related items. This report contains a single background and analysis section for all items.

P.A.S.: Change of Zone #04018 - Flood Plain
Misc # 04001 - Amendments to Subdivision
Misc # 04002 - Amendments to Design Standards

PROPOSAL: Text amendments to :

Zoning, Title 27 LMC;
- Chapter 27.03, General Definition
- Chapter 27.52, Flood Regulations for Existing Urban Areas
- Chapter 27.53, Flood Regulations for New Growth Areas
- Chapter 27.55, Flood Plain District
- Chapter 27.65, Community Unit Plan
- Chapter 27.81. General Provisions

Subdivision, Title 26 LMC;
- Chapter 26.07, Definitions
- Chapter 26.15, Preliminary Plat
- Chapter 26.23, Development Standards
- Chapter 26.24, Flood Regulations for Existing Urban Areas
- Chapter 26.25, Flood Regulations for New Growth Areas
- Chapter 26.27, Minimum Improvements

Lincoln Design Standards for Zoning and Subdivision Regulations;
- Section 2.05, Stormwater Drainage Design Standards for Subdivision Regulations
- Section 2.07, Flood Design Standards for New Growth Areas for Subdivision Regulations
- Section 3.06, Minimum Flood Corridor Design Standards for Zoning Regulations
- Section 3.07, Flood Design Standards for New Growth Areas for Zoning Regulations

Drainage Criteria Manual;
- Chapter 1, Introduction
- Chapter 10, Flood Design Criteria for New Growth Areas

All relating to the flood plain regulations to reflect the April 2003 report and recommendations of the Mayor's Floodplain Task Force for the City of Lincoln New Growth Areas (see attached map, text and supporting documentation).

A Comprehensive Plan amendment (CPA # 04017) is also in process to reflect the Task Force principles and policy objective and update referenced language.

CONCLUSION: These amendments modify the existing ordinances and standards to reflect the Mayor's Flood Plain Task Force report of April 2003. These amendments only apply to the "New Growth Areas" of Lincoln's three mile jurisdiction. The Subdivision and Zoning are adjusted to have both an Existing Urban Area and a New Growth Areas, thus the existing city regulations stay essentially the same and only the defined New Growth areas are effected. The Design Standards and Drainage Criteria are amended reflect these changes.

RECOMMENDATION: Approval of attached text

HISTORY:

August 2001 - Former Mayor Wesely appointed the Mayor's Floodplain Task Force.

April 2003 - The Task Force finalized recommendations for New Growth Areas and the Existing Urban Area and produced their final report.

ANALYSIS:

1. The Mayor's Floodplain Task Force recommendations for floodplain standards are summarized below:

    1. Adopt No Adverse Impact Policy
    2. Improve Accuracy of Floodplain Maps
    3. Adopt New Floodplain Standards
    4. Provide Flexibility for Stream Crossings
    5. Apply Stream Buffers to Mapped Floodplains and Smaller Streams
    6. Preserve Flood Storage on Surplus Property
    7. Develop a Floodplain Buyout Program
    8. Do **Not** Charge Floodplain Development Fee
    9. Encourage Best Management Practices
    10. Take Action Regarding Salt Creek Floodplain Through Lincoln (N/A for New Growth Areas)
    11. Encourage Higher Building Construction Standards
    12. Protect Lateral Additions to Non-Residential Structures
    13. Provide Incentives for Cluster Development
    14. Use Best Available Floodplain Study Information
    15. Improve Floodplain Disclosure in Real Estate Transactions
    16. Improve Methods for Assessing Floodplain Properties

2. The proposed Flood Regulations and Standards apply to New Growth Areas within Lincoln's jurisdiction (see map).

3. These include revisions to multiple documents, including Lincoln Zoning and Subdivision Ordinances, Design Standards, and Drainage Criteria Manual.

4. The regulations use best available flood hazard information - standards apply to FEMA-mapped floodplains as well as 'floodprone areas' identified through watershed master plans.

5. The proposal adopts a 'No Net Rise' standard, technically requiring a hydraulic study to show no rise greater than 0.05' in the 100-year floodplain (outside the floodway) or floodprone areas.

   Exceptions:
   a. Residential non-substantial improvements
   b. Stream crossing structures meeting sequencing standards for minimizing and mitigating impacts
   c. Minor projects with No Rise Certification (require no study)
   d. Approved Preliminary Plats
   e. Public Stream Crossing structures having approved EIS, etc. or design public hearing as of adoption of standards
   f. Dams & stormwater storage facilities

6. The proposal requires compensatory storage for development in floodplain or floodprone area so that flood storage lost to fill or structures is compensated for by providing replacement storage at 1 to 1 ratio.

   Exceptions: Same as above; stream crossing structures do not have to replace lost storage

7. This proposal extends requirement for preservation of buffer called 'Minimum Flood Corridor' to stream channels with mapped floodplains. Today the buffer is only required outside mapped floodplains. Total buffer width is 60' (30' per side) plus 6x depth of stream.

   Exceptions:

   Operations and Maintenance, channel improvements, stormwater storage, public parks, trails, other public recreational uses allowed to encroach with impacts to storage and vegetation mitigated at a 1.5 to 1 ratio.

   Stream crossing structures - not required to replace lost storage or vegetation at 1.5 to 1 ratio, but must re-vegetate graded areas wherever possible.

8. This proposal requires all lateral additions to non-residential structures to be protected to flood standards and to meet 'no net rise' and 'compensatory storage' requirements.

9. This includes revisions to clarify ordinance provisions required by minimum federal and state standards, for administrative purposes, and for consistency between different sections of the code.

10. This package recommends and provides some incentives for additional (voluntary) flood management standards -- 'best management practices' and 'best construction practices' to offset impacts to the natural and beneficial functions of floodplains and floodprone areas during site development. Density bonuses in the Community Unit Plan are added to the "R" districts as well as the current AG and AGR districts for floodplain preservation [see 27.65.020 (f)].

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11. A Comprehensive Plan amendment is also in process, in tandem with this application.

12. These proposed amendments reflect and implement the recommendations of the Floodplain Task Force.

Prepared by:

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Planner

March 15, 2004

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March 4, 2004

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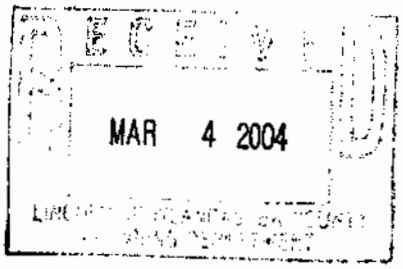

Dear Marvin:

Attached are proposed flood standards for New Growth Areas for consideration by the Planning Commission at their March 31, 2004 public hearing. These standards are proposed by the Public Works and Utilities Department and Lower Platte South Natural Resources District. The flood standards are intended to reflect the April 2003 recommendations of the Mayor's Floodplain Task Force for the City of Lincoln New Growth Areas (see attached).

Amendments are proposed to five different documents:

1. Lincoln - Lancaster County Comprehensive Plan
2. Lincoln Zoning Ordinance
3. Lincoln Subdivision Ordinance
4. Lincoln Design Standards
5. Lincoln Drainage Criteria Manual

A summary of the proposed amendments is provided in the attached documentation. The **principles and policy objectives** included in the proposed Comprehensive Plan amendment **apply both to the City and County.** ***The ordinances and standards apply only to New Growth Areas within Lincoln's 3-mile zoning jurisdiction*** *(see attached map).* New Growth Areas are defined as those areas outside the Lincoln city limits and zoned AG Agriculture or AGR Agricultural Residential as of the effective date of the standards. The Existing Urban Area is intended to be addressed in a second phase following the adoption of standards for New Growth Areas.

ORDINANCE TEXT REVISIONS

The flood standards for the **Subdivision Ordinance** have been consolidated from multiple chapters into two chapters dedicated to flood standards: one for the Existing Urban Area and one for New Growth Areas. The **Zoning Ordinance** was revised by eliminating Chapter 27.55, "Floodplain District," and creating two new chapters to distinguish between standards for the Existing Urban Area and New Growth Areas. Because all text within new chapters is underlined, new or revised standards within these chapters are distinguished by highlighted text. Thus, text which is not highlighted in Chapters 27.52 and 27.53 of the draft

LINCOLN
The Community of Opportunity

Zoning Ordinance, and 26.24 and 26.25 of the draft Subdivision Ordinance represents existing standards. In addition to the recommendations of the Mayor's Floodplain Task Force, **some revisions have been made with applications to both Existing Urban Area and New Growth Areas** to clarify ordinance provisions required by minimum federal and state standards, for administrative purposes, and for consistency between different sections of the code.

BACKGROUND

In August of 2001, former Mayor Wesely appointed the Mayor's Floodplain Task Force (FPTF), representing a range of stakeholders from the community, to formulate recommendations regarding the development of new floodplain standards. The Task Force utilized the results of two studies in developing their recommendations, one completed by the Corps of Engineers (COE), and a second completed by Camp Dresser & McKee, Inc. (CDM). **Executive summaries for these studies from Appendix H of the FPTF Report are attached for reference.**

Corps of Engineers Study

The COE study evaluated three scenarios on the Dead Man's Run and Beal Slough floodplains, from moderate to more extreme losses of flood storage. The **study concluded that, within the study reaches, increased flood damages** resulting from loss of flood storage had the potential to range from **$2.6 to $10.9 million on Dead Man's Run**, and from **$0.1 to $1.9 million on Beal Slough**. Economic analysis was not performed for **100% loss of flood storage**, which showed a substantially greater rise in flood heights (2.8 foot rise and 4.3 foot rise on Deadman's Run and Beal Slough, respectively) than the alternative scenarios where the economic analysis was performed.

CDM Study

The CDM study projected the **reduction in flood damage possible to public infrastructure if higher standards were adopted** and the economic costs to private development of meeting a higher standard. Half-foot Rise and No Net Rise/Compensatory Storage standards were evaluated. Under the No Net Rise/Compensatory Storage standard, as compared to the current One-foot Rise standard, flood damage costs to public buildings, streets and stream crossings were projected to be reduced 27% and 44%, respectively. **Reduction in flood damage costs** based on a No-Rise/Compensatory Storage scenario were projected at **100%, 27% and 44%** for public buildings, streets, and stream crossing structures, respectively.

The CDM study's evaluation of the **increased costs to private development** to meet a No Rise/Compensatory Storage standard were projected at **14%, 21% and 10% for traditional** residential, commercial and industrial development configurations, respectively. **For cluster developments** allowed by the ordinance today through Community Unit Plans and Planned Unit Developments, the No Net Rise/Compensatory Storage standard was projected to **increase costs to private development by 6% or less.** Additional information regarding estimated engineering costs from Appendix K from the FPTF Report is attached for reference.

Task Force Final Report

In April of 2003, the FPTF finalized their recommendations, distinguishing between New Growth Areas and the Existing Urban Area. A copy of the recommendations for New Growth Areas is attached, and a copy of the full FPTF report is available on the City's website at lincoln.ne.gov. **The flood standards as proposed are intended to reflect the recommendations of the FPTF for New Growth Areas for the City of Lincoln.**

PUBLIC INFORMATION REGARDING DRAFT STANDARDS

The draft standards were made available for public review on February 4, 2004. A notice was sent to approximately 475 individuals and organizations with a summary and information regarding where a full set of standards could be obtained. A set of draft standards was also forwarded to Planning Commission members and elected officials. Since that time, the proposed standards have been available for review at the following locations:

- Lincoln City Libraries
- City-County Planning Department
- Public Works & Utilities Dept.
- Lower Platte South NRD
- Kinkos at 48th & Vine (for fee)
- City of Lincoln Website: lincoln.ne.gov (as of Feb 18)

Presentations regarding the proposed standards have been made to the following organizations:

- Mayor's Environmental Advisory Committee - February 5, 2004
- Mayor's Neighborhood Roundtable - February 12, 2004
- Architects/Engineers Seminar - February 18, 2004
- County Ecological Advisory Committee - March 2, 2004

Presentations are scheduled prior to the March 31 public hearing, as follows:

- Open House at County Extension Offices - March 9, 2004, 5:30-8:00 pm
- Homebuilders, Board of Realtors, and Chamber of Commerce - March 9, 2004
- Planning Commission Briefing - March 17, 2004

Contacts for questions regarding the proposed standards are as follows:

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The proposed standards reflect the recommendations of a 16-member Floodplain Task Force representing a broad cross-section of interests throughout the community, and they represent approximately 2 ½ years of technical study and consideration. The standards are consistent with the Lincoln-Lancaster County Land Use Plan and support the goals of the Comprehensive Plan regarding the reduction of future flood hazards and the conservation of floodplain functions and riparian corridors for flood storage and conveyance, stream stability, and water quality.

Sincerely,

Allan Abbott, Director
Public Works & Utilities Dept.

Glenn Johnson, General Manager
Lower Platte South NRD

cc (w/o attachments):
Mayor Coleen J. Seng
Nicole Fleck-Tooze, Ben Higgins, Rock Krzycki - PW/U Dept.
Mike Merwick, John Callen - Building & Safety Dept.

Attachments:
Appendix H of the FPTF Report - Executive Summaries for COE and CDM Studies
Appendix K of the FPTF Report - Supporting Information (engineering costs)
Summary of Proposed Standards
Map showing Existing Urban Area and New Growth Areas for Flood Regulations
FPTF Recommendations for New Growth Areas
List of Revisions
Amendments to Comprehensive Plan
Revisions to Lincoln Zoning Ordinance
Revisions to Lincoln Subdivision Ordinance
Revisions to Lincoln Design Standards
Revisions to Lincoln Drainage Criteria Manual

Draft Flood Standards Revisions for New Growth Areas
List of Revisions

Comprehensive Plan
- F34-35, Future Conditions - Community Form, Plan Assumptions Section, Page 1
- F63, Future Conditions - Environmental Resources, Floodplain Section. Page 2
- F78-80, Future Conditions - Utilities, Floodplain Management Section, Page 2

Title 26, Lincoln Subdivision Ordinance
- Chapter 26.07, "Definitions", Page 6
- Chapter 26.15, "Preliminary Plat", Page 12
- Chapter 26.23, "Development Standards", Page 18
- Chapter 26.24, "Flood Regulations for Existing Urban Area", Page 27
- Chapter 26.25, "Flood Regulations for New Growth Areas", Page 31
- Chapter 26.27, "Minimum Improvements", Page 37

Title 27, Lincoln Zoning Ordinance
- Chapter 27.03, "General Definitions", Page 41
- Chapter 27.52, "Flood Regulations for Existing Urban Area", Page 54
- Chapter 27.53, "Flood Regulations for New Growth Areas", Page 65
- Chapter 27.55, "Flood Plain District", Page 80
- Chapter 27.65, "Community Unit Plan", Page 90
- Chapter 27.81, "General Provisions", Page 98

Lincoln Design Standards for Zoning and Subdivision Regulations
- Section 2.05, "Stormwater Drainage Design Standards" for Subdivision Regulations, Page 103
- Section 2.07, "Flood Design Standards for New Growth Areas" for Subdivision Regulations, Page 115
- Section 3.06, "Minimum Flood Corridor Design Standards" for Zoning Regulations, Page 116
- Section 3.07, "Flood Design Standards for New Growth Areas" for Zoning Regulations, Page 117

Drainage Criteria Manual
- Chapter 1, "Introduction", Page 118
- Chapter 10, "Flood Design Criteria for New Growth Areas", Page 132

SUMMARY

Proposed Flood Standards for NEW GROWTH AREAS

February 5, 2004

Standards apply to floodplains or floodprone areas within New Growth Areas - those areas outside the Lincoln city limits and zoned AG Agriculture or AGR Agricultural Residential as of the effective date of the regulations (see map).

BACKGROUND

In August of 2001, former Mayor Wesely appointed the Mayor's Floodplain Task Force (FPTF), representing a range of stakeholders from the community, to formulate recommendations regarding the development of new floodplain standards. In April of 2003, the FPTF finalized recommendations for: 1) New Growth Areas, and 2) the Existing Urban Area. These recommendations can be found on the City's website at lincoln.ne.gov. **The draft flood standards summarized below are intended to reflect the recommendations of the FPTF for New Growth Areas for the City of Lincoln.**

COMPREHENSIVE PLAN AMENDMENT

1. Confirms **policy assumptions** in Comprehensive Plan consistent with recommendations of FPTF.

2. Adopts series of strategies that reflect **policies and principles** set forth by FPTF for New Growth areas.

3. Speaks to consistency of proposed standards with **2025 Comp Plan land use designations**, which identify future urban growth outside of floodplain and designates majority of floodplains as Green Space, Environmental Resources, or Agricultural Stream Corridors.

4. Strategies include implementation of **'No Adverse Impact' policy**, where the action of one property owner does not adversely impact the flooding risk for other properties.

5. Proposed principles and **policy goals apply to both City and County.**

FLOOD REGULATIONS AND STANDARDS

1. **Applies to New Growth Areas** within Lincoln's jurisdiction (see map).

2. Includes **revisions to multiple documents**, including Lincoln Zoning and Subdivision Ordinances, Design Standards, and Drainage Criteria Manual.

3. Uses **best available flood hazard information** - standards apply to FEMA-mapped **floodplains as well as 'floodprone areas'** identified through watershed master plans.

4. Adopts a **'No Net Rise' standard**, technically requiring a hydraulic study to show no rise greater than 0.05' in the 100-year floodplain (outside the floodway) or floodprone areas.

   Exceptions:
   a. Residential non-substantial improvements
   b. Stream crossing structures meeting sequencing standards for minimizing and mitigating impacts
   c. Minor projects with No Rise Certification (require no study)
   d. Approved Preliminary Plats
   e. Public Stream Crossing structures having approved EIS, etc. or design public hearing as of adoption of standards
   f. Dams & stormwater storage facilities

5. Requires **compensatory storage** for development in floodplain or floodprone area so that flood storage lost to fill or structures is compensated for by providing replacement storage at 1 to 1 ratio.

   Exceptions: Same as above; stream crossing structures do not have to replace lost storage

6. Extends requirement for preservation of **buffer called 'Minimum Flood Corridor'** to stream channels with mapped floodplains. Today the buffer is only required outside mapped floodplains. Total buffer width is 60' (30' per side) plus 6x depth of stream.

Exceptions:
O&M, channel improvements, stormwater storage, public parks, trails, other public recreational uses allowed to encroach with impacts to storage and vegetation mitigated at a 1.5 to 1 ratio.

Stream crossing structures - not required to replace lost storage or vegetation at 1.5 to 1 ratio, but must re-vegetate graded areas wherever possible.

7. Requires all **lateral additions** to non-residential structures to be protected to flood standards and to meet 'no net rise' and 'compensatory storage' requirements.

8. Includes **revisions to clarify** ordinance provisions required by minimum federal and state standards, for administrative purposes, and for consistency between different sections of the code.

9. Recommends and provides some incentives for additional **(voluntary) flood management standards** -- 'best management practices' and 'best construction practices' to offset impacts to the natural and beneficial functions of floodplains and floodprone areas during site development.

Explanation of Terms:

Floodplain:
The area subject to flooding by a 100-year flood as shown on the Federal Emergency Management Agency (FEMA) maps.

Floodprone Area:
The area subject to flooding by a 100-year flood as determined by studies completed by the City or other government agency, typically as part of a watershed master plan, but not yet incorporated into the FEMA floodplain maps.

Stream Crossing Structures:
Structures used to convey pedestrians, motor vehicles and/or utilities across drainageways. Stream crossing structures are composed of the structure, abutments, guard rails, fill, and other structural appurtenances that are generally perpendicular to the conveyance of flow within the floodplain or floodprone area.

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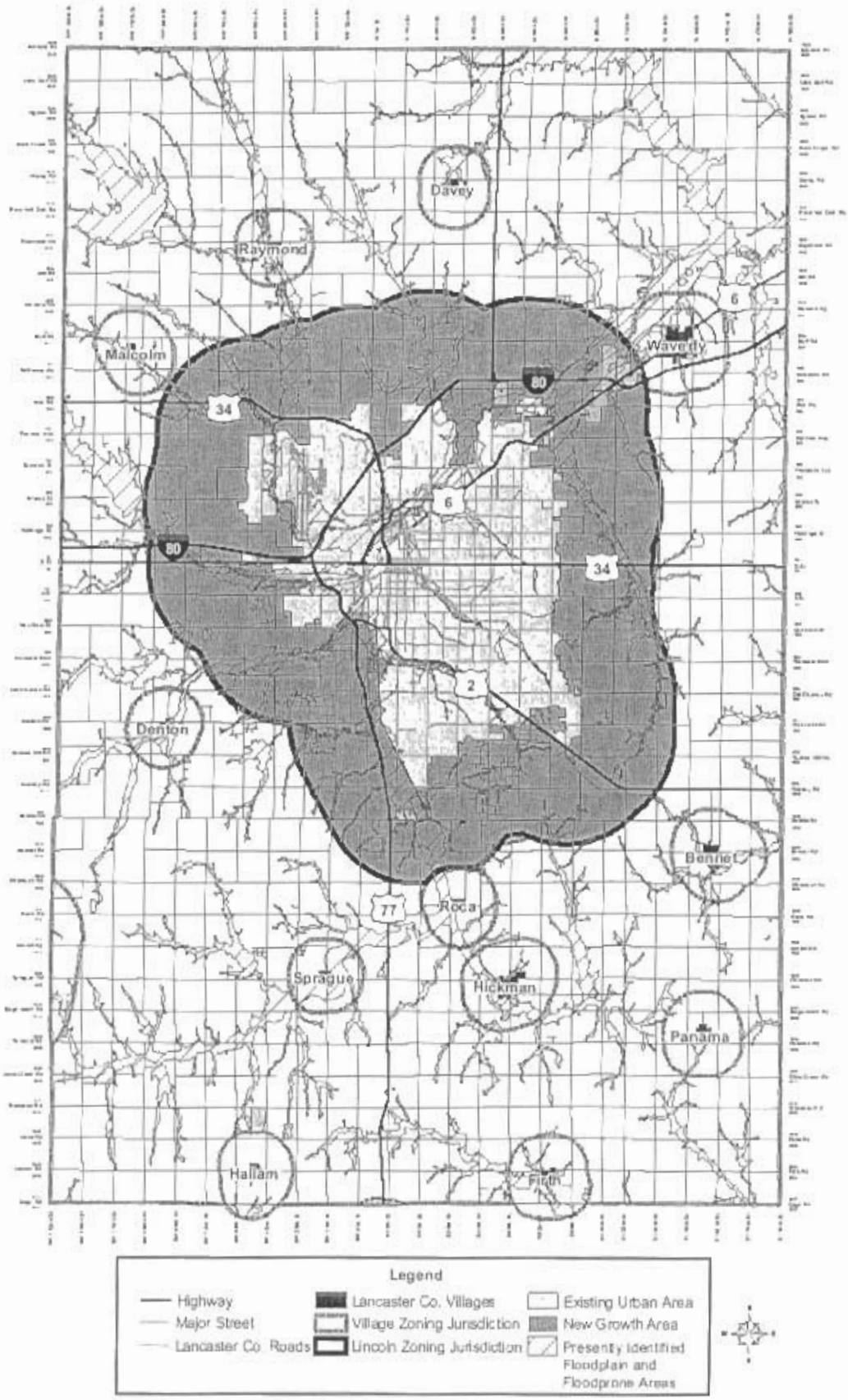
Existing Urban Area & New Growth Areas for Flood Regulations



Floodplain Recommendations for New Growth Areas

For the purposes of these recommendations, 'New Growth Areas' are defined as those areas outside the City limits and zoned AG - Agricultural or AGR - Agricultural Residential at the time a new standard is adopted. (See Floodplain Policy Application Areas map in Appendix L).

1. No Adverse Impact

Adopt No Adverse Impact Policy

In New Growth Areas, the City of Lincoln and Lancaster County should have a policy of No Adverse Impact, with a goal of ensuring that the action of one property owner does not adversely impact the flooding risk for other properties, as measured by increased flood stages, flood velocity, flows or the increased potential for erosion and sedimentation.

No Adverse Impact is a managing principal and policy goal **developed by the Association of State Floodplain Managers** (ASFPM) in support of long-term, sustainable approaches to reducing the nation's flood losses. A "No Adverse Impact Floodplain" is defined as one where the action of one property owner does not adversely impact the flooding risk for other properties, as measured by increased flood stages, flood velocity, flows or the increased potential for erosion and sedimentation. The ASFPM recommends that the No Adverse Impact policy be **implemented nationwide at a local level** through a range of approaches based upon what is most effective for a particular community.

2. Floodplain Mapping

Improve Accuracy of Floodplain Maps

The City and County should continue to develop and improve a comprehensive, watershed approach to floodplain mapping which recognizes the community interest and responsibility for the prevention of future flood damages. Accurate floodplain mapping should be a priority to which specific resources are dedicated, utilizing the latest technology and data available, and should be furthered through partnerships with other agencies.

The Task Force discussed the disadvantages of the **variable level of accuracy in mapping** and flood elevation information within the FEMA floodplain maps and flood insurance studies for the City and County. There was considerable discussion among Floodplain Task Force members regarding the **need to continue updating** the floodplain maps in order to have dependable information on which to base decisions and policies. While it was acknowledged that the 100-year floodplain boundary and flood elevation information is being developed for Lincoln and its future growth areas as watershed master plans are completed basin by basin (see Policy Item 14, 'Best Available Study Information'), there was concern about the period of time that it would take to develop this information using an incremental approach. The Task Force acknowledged that the floodplain map update process will be facilitated by the City having entered into the **Cooperating Technical Partners program** for floodplain mapping with

FEMA. However, the group expressed that mapping should be a priority to which specific resources are dedicated. Individual members felt that the role and responsibility of the Lower Platte South Natural Resources District and the Corps of Engineers should also be identified in the recommendation.

3. No Net Rise/Compensatory Storage Standard

Adopt New Floodplain Standard

A No Net Rise and Compensatory Storage standard should be adopted. This means that development within the 100-year floodplain in New Growth Areas should be required to demonstrate through an engineering study that it will cause no increase in the water surface elevation of the 100-year flood greater than five hundredths of a foot (0.05'). In addition, compensatory storage should be required at a ratio of 1 to 1 for volume of flood storage lost to fill or structures in the 100-year floodplain. Compensatory storage should be provided with the objective of being hydrologically similar to lost flood storage volume, but a hydrologic study should not be required to demonstrate that the storage is hydrologically equivalent.

The No Net Rise/Compensatory Storage standard recommended by the Task Force evolved out of discussion surrounding **two fundamental functions of the floodplain:**

1) **'No Net Rise,'** which relates to the conveyance properties of the floodplain, or "how the water flows"; and

2) **'Compensatory Storage,'** which relates to the volume, or "how much total water there is".

A No Net Rise standard by itself would preserve conveyance, but would not regulate 'non-conveyance' areas, backwater areas or the attenuating (flood reducing) characteristics of the floodplain. Also, technical information brought to the Task Force indicated that a community could preserve significant functions of the floodplain by adopting a 'No Net Rise' standard, but the No Net Rise standard by itself would not address increases in velocity or erosion. Alternatively, if only a **Compensatory Storage standard** were adopted, hydraulic conveyance would not be preserved, and there could be a rise in flood heights. The purpose for coupling 'Compensatory Storage' with 'No Net Rise' was to identify a standard, which would address conveyance of floodwater and would also insure that the amount of water reaching the water course would remain the same. The two approaches were considered to complement one another and to meet the goal of No Adverse Impact outlined in the first policy recommendation.

Land Use Designation

An important consideration for **New Growth Areas** was the Lincoln/Lancaster County Land Use Plan (see Lincoln/Lancaster County Land Use Plan map in Appendix L) adopted as part of the **2025 Comprehensive Plan**, which **designates areas for future urban development outside of the floodplain** to avoid introducing new development to flood risks and to preserve the functions of the floodplain. The majority of floodplain within the New Growth Areas is designated as Green Space, Environmental Resources, or Agricultural Stream Corridors.

Hydraulic and Hydrologic Modeling

There was considerable discussion regarding what modeling should be required to demonstrate that the No Net Rise/Compensatory Storage standard was being met. Consideration was given to the fact that the

analysis to meet the 'No Net Rise' criteria is straightforward and utilized regularly today in the Floodway. However, it was acknowledged that determining the **hydrologic equivalent for Compensatory Storage** through modeling would be difficult and was not anticipated to be a practical requirement. Thus, it was agreed that compensatory storage should be provided with the objective of being hydrologically equivalent, without requiring a hydrologic model to demonstrate this fact.

Allowable Rise

Information was presented to the Task Force which indicated that allowing a very small rise could make a significant difference in the **flexibility of the No Net Rise** portion of the standard and would be easier to administer. It was pointed out that there are many actions that can be taken within the floodplain which would be unable to show No Rise, but would have an 'infinitesimal' impact. Thus, the Task Force included the provision to **allow for five hundredths of a foot (0.05') rise** to account for these circumstances.

'Mitigation' Ratio for Lost Floodplain Storage

Early draft recommendations discussed by the Task Force identified that the 'mitigation' ratio for lost floodplain storage should be greater than 1 to 1. The discussion reflected a desire to base the standard for Lincoln and Lancaster County upon what was being done nationwide in this regard, however, the research showed that there is **a range of mitigation ratios utilized nationwide for flood storage**, with no overall consistency in the ratios. While there are examples of other communities where mitigation is required at greater than 1 to 1, these examples often were in communities where a Compensatory Storage standard was not coupled with a No Net Rise standard. Thus, it was determined that **a 1 to 1 mitigation ratio would be sufficient** for Compensatory Storage as long as this was **coupled with a No Net Rise** standard.

Example Floodplain Developments

The Task Force was interested in examples of developments within the floodplain that met a similar standard. It was discussed that **Horizon Business Center/Southwest High School** site did meet a Compensatory Storage standard, and was likely close to meeting a No Net Rise standard as well, although this was not measured. It was also discussed that while **Haymarket Park** did not meet a No Net Rise/Compensatory Storage standard, it met the standards identified in the FEMA Flood Insurance Study to preserve Salt Creek flood storage outside of the levee system.

Additional Engineering Costs

Task Force members raised concerns about the additional engineering costs of meeting a No Net Rise/Compensatory Storage standard. To address this issue, engineering costs were researched and are provided (based upon discussions with various engineering firms) within this report in Appendix K. In general, there was found to be an **'economy of scale'**, meaning that there was typically a base cost which did not vary with the size of the site, in addition to a cost per acre. Thus, the larger the site, the less of an increase would be expected in engineering costs to meet a No Net Rise/Compensatory Storage standard. In evaluating engineering as a percentage of total development costs, **the average estimated range in additional engineering costs to meet this standard would be 1.4 % to 0.3% of the development costs for sites in the range of 10 to 100 acres, respectively.**

Other Economic Impacts

The projected costs of both adopting a higher standard and continuing with the present-day standard are articulated by the Corps of Engineers (COE) and CDM studies (see Executive Summaries in Appendix H). Both studies utilized example floodplain reaches that are projected to be indicative of the

majority of floodplains in Lincoln and Lancaster County with regard to fill in the flood fringe.

The COE study summarized in Appendix H evaluated three scenarios on the Dead Man's Run and Beal Slough floodplains, from moderate to more extreme losses of flood storage. The study concluded that, within the study reaches, **increased flood damages** resulting from loss of flood storage had the potential to range from **$2.6 to $10.9 million on Dead Man's Run**, and from **$0.1 to $1.9 million on Beal Slough**. Economic analysis was not performed for **100% loss of flood storage**, which showed a substantially greater rise in flood heights (2.8 foot rise and 4.3 foot rise on Deadman's Run and Beal Slough, respectively) than the alternative scenarios where the economic analysis was performed.

The CDM study summarized in Appendix H projected the reduction in flood damage possible to public infrastructure if higher standards were adopted and the economic costs to private development of meeting a higher standard. Half-foot Rise and No Net Rise/Compensatory Storage standards were evaluated. Under the No Net Rise/Compensatory Storage standard, as compared to the current One-foot Rise standard, flood damage costs to public buildings, streets and stream crossings were projected to be reduced 27% and 44%, respectively. **Reduction in flood damage costs** based on a No-Rise/Compensatory Storage scenario were projected at **100%, 27% and 44%** for public buildings, streets, and stream crossing structures, respectively. **Increased costs to private development** to meet a No Rise/Compensatory Storage standard were projected at **14%, 21% and 10% for traditional** residential, commercial and industrial development configurations, respectively. **For cluster developments** allowed by the ordinance today through Community Unit Plans and Planned Unit Developments, the No Net Rise/Compensatory Storage standard was projected to increase costs to private development by 6% or less.

(See Policy Item 12 for discussion of this standard as it relates to substantial improvements and refer to Appendix K for additional information. Also see the No Net Rise and Compensatory Storage Fact Sheet included in Appendix I).

4. Stream Crossing Structures

Provide Flexibility for Stream Crossings

The City and County should adopt a practical standard for stream crossing structures, which takes into account that there are circumstances in which it is structurally or financially infeasible to construct stream crossings without causing any rise in flood heights in the flood fringe. Construction of stream crossing structures should be required to demonstrate a sequencing approach that seeks first to avoid, then to minimize, then mitigate for any impacts to flood storage or flood heights. The standards should be flexible and consider alternatives such as an allowable rise between 0'-1' in the flood fringe, allowable loss of flood storage, and/or purchase of property or easements where flood heights will increase and an amendment is made to the FEMA flood insurance rate map.

The Floodplain Task Force was presented with information indicating that there are circumstances in which it is **structurally or financially infeasible to construct stream crossings without causing any rise** in flood heights in the flood fringe.

Replacing Existing Structures

Where existing stream crossing structures exist and the grade of the road is not being raised, a No Net Rise/Compensatory Storage standard **would not be anticipated to have a significant impact on bridge and culvert replacements**, since most replacements meet a higher standard than the older structures being replaced.

New Stream Crossing Structures

Based upon anecdotal evidence from conversations with floodplain managers from other communities and other research supplied to the Task Force, it appears that adopting a No Net Rise/Compensatory Storage floodplain standard with no flexibility would be likely to **increase the cost of constructing new stream crossing structures by approximately 25%**. However, it was discussed that the ability to use compensatory storage, property rights acquisition, and increases in downstream conveyance capacity would make it more flexible and could offset many of these anticipated increases in cost.

While the Task Force agreed that flexibility with regard to stream crossing structures was important, it was emphasized that the flexibility outlined in this policy **should be provided for private as well as public stream crossing structures**. Individual Task Force members suggested the City and County ought to meet a higher standard than the private sector. Task Force members also expressed that any **impacts to flood storage or conveyance should have careful consideration**. The 'sequencing' approach identified in the recommendation is modeled upon the approach required by Section 404 of the Clean Water Act for impacts to wetlands, and was included in order to discourage an approach that would have adverse impacts. *(See Appendix K for additional information).*

5. Stream Buffers

Apply Stream Buffers to Mapped Floodplains and Smaller Streams

The Minimum Flood Corridor stream buffer or similar standard should be applied in the City and County within the FEMA-mapped floodplains and along smaller, unmapped streams that have a defined bed and bank. Encroachments should be permitted per the existing standards for Minimum Flood Corridors for operation, maintenance and repair, channel stabilization, stormwater storage facilities, utility crossings, public parks, pedestrian/bike trails and other recreational uses and public purposes. However, proposed encroachments should be required to demonstrate a sequencing approach that seeks first to avoid, then to minimize, then mitigate for any encroachments. Mitigation for loss of vegetation and flood storage should occur at a 1.5 to 1 ratio. Where land uses prior to development have an impact on the buffer width, the area should be replanted with vegetation compatible with the corridor and water quality benefits.

The Task Force discussed **City of Lincoln standards, which currently require a "minimum flood corridor"** buffer to be preserved along only those drainageways **outside the mapped floodplain** that drain greater than 150 acres. Thus, smaller tributaries draining less than 150 acres or larger streams that have a mapped floodplain require no buffer protection. The width of the minimum flood corridor is equal to the stream channel bottom width, plus 60 feet, plus 6 times the channel depth. It was determined that the Minimum Flood Corridor stream buffer or similar standard should be applied within the FEMA-mapped floodplains and along smaller, unmapped streams that have a defined bed and bank.

Mitigation

There was considerable discussion regarding **mitigation** that should be required **for impacts to buffers** along stream corridors. The majority of Task Force members felt that replacement of lost plant materials should occur at a ratio greater than 1 to 1 (1:1), due to the **plant mass lost when mature vegetation is replaced with new plantings.** Thus, a mitigation ratio of 1.5:1 was recommended. Information was provided to the Task Force showing a range of mitigation ratios nationwide for impacts to wetlands and stream buffers. The ratios generally ranged from 1:1 to 3:1, with greater ratios required for impacts to unique environmental areas. There was concern about the lack of a scientific basis for choosing any particular mitigation ratio, but the majority of Task Force members felt that 1.5:1 was an acceptable mitigation ratio given the available information. Individual members expressed some discomfort with the numbers but agreed in concept.

Buffer Width

Individual Task Force members also expressed concern about the **width of buffers that would be required along degraded, mainstem stream channels** like Salt Creek and Stevens Creek if the "minimum flood corridor" standard is applied. Examples were provided to the Task Force for a Stevens Creek tributary and the mainstem channel downstream in the basin. The buffer widths at each location were calculated and shown on a map for comparison with the existing FEMA-mapped 100 year floodplain and floodway. Both examples on the mainstem of Stevens Creek resulted in buffer widths much smaller than the existing 100 year floodway, and the floodway and buffer for the smaller Stevens Creek Tributary were nearly equal in width. The maps adequately addressed the concern of the Task Force and members agreed that the "minimum flood corridor" standard should be applied to areas within

the FEMA-mapped floodplain. Discussion also included **applying the standards in a reasonable way** that would, for example, not require a buffer area on a plateau outside of the floodplain. *(See Greenfield Approach Fact Sheet in Appendix I for additional information).*

6. Surplus/Vacated Floodplain Property Policy

Preserve Flood Storage on Surplus Property

The City and County should adopt a policy where, under normal circumstances, City or County property in the floodplain is viewed as serving a public purpose and not be proposed for surplus. If there are unusual circumstances that cause the consideration of declaring surplus property in the floodplain, the City or County should retain a permanent conservation easement that protects the flood storage capacity, or any flood storage impacts should be mitigated at a 1 to 1 ratio. Declaring surplus property should not be considered *under any circumstances* where floodplains contain environmental resources such as riparian areas or stream corridors that provide habitat and water infiltration benefits or serve as connectors to natural areas.

When other publicly-owned property in the floodplain is proposed for surplus, the City should consider purchasing the property fee simple, or alternatively, purchasing a permanent conservation easement where appropriate to preserve flood storage and other environmental resources.

When street or alley ROW in the floodplain is proposed for vacation, the City or County should retain a permanent conservation easement that protects the flood storage capacity. Consideration should be given to allowing for a conservation easement to be deeded over an alternate floodplain area having equal or greater flood storage volume.

Discussion on this policy item included consideration of the **amount of publicly owned property within the floodplain**. This information was provided in the form of a map to the Task Force. (See City of Lincoln/Lancaster County Publicly Owned Land in the Floodplain map, Appendix L).

Other Task Force dialogue on this policy item included:

1) Consideration of economic issues and the long-term costs and benefits;

2) The need to take into account the potential for multiple benefits, including opportunities to meet some of the recreational goals of the City and County.

3) Whether mitigation for flood storage impacts to surplus properties should be provided at greater than a 1:1 ratio to offset the loss of publicly owned floodplain areas.

4) Opportunities to partner with other agencies.

(See Maintain Storage on Surplus Property Fact Sheet in Appendix I).

7. Floodplain Buyout Program

Develop a Floodplain Buyout Program

The City and County should develop and implement a continuing floodplain buyout program, which is sensitive to the need to minimize impacts on neighborhoods and historic districts. Special emphasis should be placed upon sites that provide multiple benefits. These include opportunities to develop contiguous open space, preserve environmental resources, and to mitigate flood damage by providing additional detention for flood water during major storm events. An evaluation should be performed to identify potential funding sources, and where possible, the City and County should form partnerships and pool resources with other public agencies. Eminent domain should be used to acquire property only as a last resort.

While there was clear support on the Task Force for the creation of a floodplain buyout program, there was considerable discussion regarding **how such a program would be funded.** The Task Force recommendation was for a range of alternatives to be investigated through an evaluation of funding resources. Individual members felt that the policy recommendation should include specific reference to potential funding sources.

8. Floodplain Development Fee

Do Not Charge Floodplain Development Fee

At this time, it is not appropriate for the City or County to charge a floodplain development fee. Consideration of a floodplain development fee would require further evaluation regarding alternative fee structures and criteria for applying the fees in a logical and equitable manner. If a fee is established at some time in the future, consideration should be given to dedicating the revenue to advance the flood mapping program and to assist in the funding of floodplain buyouts.

Information regarding precedents for floodplain development fees was not available for evaluation by the Task Force. Research on this topic revealed examples of fees charged in other communities that related more to environmental impacts than to loss of flood storage or conveyance. There was concern on the part of Task Force members about **how a fee would be calculated and how the funds would be used.** Individual members also felt that a floodplain development fee would be a double burden when considering the increased engineering costs necessary for development within the floodplain to meet a No Net Rise/ Compensatory Storage standard.

9. Best Management Practices

Encourage Best Management Practices

'Best Management Practices' such as grassed swales, water quality wetlands, retention cells, etc. should be strongly *encouraged* in floodplain areas. Best Management Practices are identified in the City of Lincoln Drainage Criteria Manual and can offset impacts to the natural and beneficial functions of floodplains when they are developed.

The Task Force had considerable discussion regarding 'Best Management Practices' (BMP's) as they relate to development in the floodplain. It was acknowledged that **preservation of stream buffers** is a BMP, which is **included as a separate policy** recommendation in Policy Item Five. Stream buffers are a BMP because they provide water quality and stream stability benefits, as well as assist in reducing the velocity of flood waters, and can be designated as a particular width and composition. The Task Force discussed the **difficulty of quantifying and prioritizing other BMP's** in a way that could be used for a required standard for floodplain management. Thus, the decision was to recommend a **policy which encourages** the implementation of BMP's in floodplain areas. Individual members felt that BMP's could be more easily integrated into residential areas than into commercial or industrial developments.

There are a number of BMP's identified in the City of Lincoln Drainage Criteria Manual. The Task Force discussed the importance of continuing to update this reference as BMP's evolve and improve.

(See Best Management Development Practices Fact Sheet in Appendix I for additional information as well as Supporting Information in Appendix K).

10. Salt Creek Flood Storage Areas

Take Action Regarding Salt Creek Floodplain Through Lincoln

Not Applicable in New Growth Areas.

11. Building Construction Standards

Encourage Higher Building Construction Standards

Buildings in New Growth Areas should continue to be protected to an elevation 1 foot above the 100-year flood elevation in accordance with the minimum requirements of the State of Nebraska. Should a No Net Rise/Compensatory Storage standard *not* be adopted in New Growth Areas, buildings should be protected to an elevation 1.5 feet above the 100-year flood elevation.

'Best Construction Practices' relating to site development and construction should be strongly encouraged. These include reducing impacts to flood storage by limiting fill to building pads in lieu of filling an entire site, floodproofing non-residential structures, and attention to the alignment of buildings relative to the flow of flood water. Development should be encouraged to demonstrate a sequencing approach that seeks first to avoid, then to minimize, then mitigate impacts to the floodplain.

The Task Force discussed **whether a higher level of floodplain protection should be required for structures in the floodplain.** The initial discussion was focused on the "freeboard," or elevation above the 100-year flood elevation to which buildings should be protected to serve as a buffer and to account for variances from predicted flood heights during flood events.

It was concluded that the proposed No Net Rise/Compensatory Storage standard (together with existing standards regarding stormwater runoff), should prevent significant increases in flood heights, and thus **the 1' minimum freeboard** required by the State of Nebraska would be **sufficient if the No Net Rise/Compensatory Storage standard is adopted.** However, the Task Force indicated that if such a standard was not adopted, buildings should be protected to an elevation 1.5 feet above the 100-year flood elevation. Furthermore, Task Force members also felt it was important to **encourage 'best construction practices'** that would minimum adverse impacts to the floodplain.

12. Substantial Improvement Threshold

Protect Lateral Additions to Non-Residential Structures

Where there are existing residential, commercial, or industrial structures within the floodplain, the substantial improvement threshold should continue to be implemented the same way that it is today (which reflects the minimum federal requirements). That is, when an improvement is made to a structure that is equal to or greater than 50% of its value, the entire structure must be brought into compliance with the floodplain regulations. Each separate improvement is considered individually relative to the 50% threshold.

In lieu of a new policy to cumulatively track substantial improvements, the City and County should implement a standard requiring *all* lateral additions to non-residential structures to be floodproofed or otherwise protected to 1' above the base flood elevation. (Should a No Net Rise/Compensatory Storage standard *not* be adopted in New Growth Areas, lateral additions should be protected to an elevation 1.5 feet above the 100-year flood elevation). Residential structures should be exempt from this requirement. (All structures will still have to meet the current 50% improvement/damage threshold to remain in compliance with minimum NFIP requirements).

To be consistent, the No Net Rise/Compensatory Storage standard should also be met when a substantial improvement (≥ 50% of the value) is made to a structure, or when a lateral addition is made to a non-residential structure.

The Task Force had considerable discussion regarding the **'substantial improvement threshold.'** When an improvement is made to a structure in the floodplain that is equal to or greater than 50% of its value, ***the entire structure*** **must be brought into compliance** with the floodplain regulations. Today, each separate improvement is considered individually relative to the 50% threshold. Thus, improvements up to a value of 49% can repeatedly be made to a structure without bringing it into compliance with floodplain regulations.

The Task Force **considered whether to adopt a 'cumulative' standard** that would take into account multiple improvements made over a period of time. However, there was concern regarding the impact that a cumulative substantial improvement policy would have upon existing neighborhoods in the floodplain, and the ability of home or business owners to make investments in existing buildings in the floodplain. Individual members also expressed a concern that inaccurate data is being used to make floodplain determinations due to the need for revised floodplain studies.

In lieu of a new policy to cumulatively track substantial improvements, the Task Force recommended that the City and County implement a standard requiring ***all*** **lateral additions to non-residential structures to be floodproofed or otherwise protected** to 1' above the 100-year flood elevation. It was discussed that the option to floodproof rather than to elevate lateral additions to non-residential structures would provide flexibility and make the standard less burdensome to meet.

Individual members expressed concern about the No Net Rise/Compensatory Storage standard being applied when substantial improvements or lateral additions to buildings are made.

13. Cluster Development

Provide Incentives for Cluster Development

Additional incentives should be adopted for clustering development outside the floodplain by broadening the current language in the zoning ordinance regarding the protection of natural/environmentally sensitive areas that is currently included in the AG & AGR districts. Consideration should be given to appropriate density bonuses and more specific language regarding clustering outside of floodplain areas. Permanent conservation easements should be required as a method of protection to receive the bonus. Land areas left open by clustering development outside the floodplain should be utilized for open space, parks, trails, or natural areas as compatible with the site and the particular floodplain area.

The Task Force discussed and rejected the potential for mandatory cluster development requirements where a portion of a development was located in a floodplain area. Instead, the group expressed the importance of **providing incentives for clustering development outside the floodplain.**

The CDM Alternative Floodplain Management Strategies study (see Cluster-Open Space Development Fact Sheet, Appendix I) examined this strategy, and additional information was also provided to the Task Force relating to an evaluation of open space floodplain areas completed within the City of Lincoln. The latter evaluation looked at the effects of proximity to open space floodplain areas on property values in four different subdivisions in Lincoln. The **average sale price of lots adjacent to open floodplain areas**, accounting for differences in size, was approximately **20-35% higher** than those in the same subdivision not adjacent to open space floodplain areas. There was some discussion amongst Task Force members about whether a portion of that cost difference could be attributed to the **grades on lots abutting floodplain open space**. Individual members pointed out that the grade on lots adjacent to floodplain areas would be conducive to walk-out basements, which would bring a higher price for the lot. Some members also pointed out that cluster type development is not always feasible from the perspective of market demands.

14. Use Best Available Floodplain Study Information

Use Floodplain Information From Watershed Plans

100-year floodplain boundary and flood elevation information (existing conditions) developed for watershed master plans should be utilized as the 'best available information' for the purposes of administering the Floodplain Ordinance relative to requirements for proposed subdivisions and building permits. Until accurate information can be developed through the watershed master planning process, development and planning efforts should recognize the variable reliability of the FEMA floodplain maps and discourage building to the edge of the FEMA floodplain boundaries.

The acquisition and use of '**best available floodplain information**' was an important topic for the Floodplain Task Force. Task Force members described this information as a 'moving target' and expressed the need to **anticipate future conditions** and to limit mistakes that would have an impact upon future generations. The Task Force stopped short of recommending regulation based upon a 'future conditions' floodplain, but did recommend that consideration be given to this approach in the future following further evaluation.

Individual members expressed concerns regarding the potential for an uneven playing field and uncertainty across the market if 'best available information' is developed through **watershed plans basin by basin**. However, other members felt that a lack of accurate mapping would put the community further behind. Other comments included the use of 'best planning practices' and the communication of floodplain information to encourage development to stay back from the floodplain boundary in case it changes in the future. *(For additional information, see Watershed Master Planning Fact Sheet included in Appendix I and Supporting Information regarding the 100-year storm limits in Appendix K).*

Apply 'Stormwater' Standards When Master Plan Information Unavailable

The stormwater standards should continue to apply to floodprone areas, or "100-year storm limits" which are required to be shown with new subdivision proposals along smaller tributaries. Floodplain standards should not be applied to these areas unless they are shown on the FEMA floodplain maps or have been identified through a watershed master plan.

Consider "Future Conditions" Floodplain Mapping

Consideration should be given to regulating based upon a "future conditions" floodplain when the information is available through watershed master planning. However, this topic needs further evaluation and discussion. The benefits of this approach need to be assessed relative to the benefits already provided by: 1) the protection of flood storage and conveyance following the adoption of new standards for floodplain areas, 2) the detention/retention standards already in place to address stormwater runoff throughout the basin, 3) watershed master planning and implementation addressing the timing of stormwater flow throughout the basin. The implementation of these three elements may or may not prevent significant increases in flood boundaries in the future.

15. Real Estate Transactions

Improve Floodplain Disclosure in Real Estate Transactions

Lincoln and Lancaster County floodplain policies should reinforce accountability and disclosure laws regarding real estate transactions with regard to notifying prospective buyers of properties in the 100-year floodplain of the flood hazard and the requirement for flood insurance, and should encourage the provision of information regarding the 100-year flood elevation. The City and County should enhance public education efforts regarding the floodplain and should consider revisions to the Land Subdivision Ordinance and Lincoln Housing Code to require the disclosure of floodplain information to the buyer prior to the sale of properties in the floodplain.

Individual Task Force members expressed an interest in this policy going a step further to recommend that real estate agents be required to disclose specific information about properties in the floodplain early in the sale process, including the location within the floodplain, the 100-year flood elevation, and an overview of the responsibilities for properties in the floodplain. Examples were provided of circumstances when floodplain **property buyers were not aware that the property was in the floodplain,** or were not aware of the implications of this fact. However, the Task Force was informed that **real estate agents are regulated by state law,** and local government cannot require a standard for real estate agents that exceeds state statutes. The Task Force discussed the **responsibility of the buyer to be informed versus the responsibility of the seller to inform** him or her, as well as the responsibility of local government to help educate potential buyers. The majority was satisfied with the language included in this policy recommendation.

16. Assessments for Floodplain Property

Improve Methods for Assessing Floodplain Properties

The County Assessor should re-examine the methodology for assessing and taxing land held in conservation easements to reflect through assessments the change in value of property held in such easements. In addition, if a No Net Rise/Compensatory Storage standard is adopted, valuations for floodplain properties as determined by the County Assessor should reflect the change in value.

Individual Task Force members expressed concern that **flood prone properties are not fairly assessed**. Discussion included recognition that only about 10% of properties in the floodplain have flood insurance, and that relief provided by a more fair assessment might be dedicated to additional flood insurance coverage. Other information provided to the Task Force suggested that a previous study on Dead Man's Run had shown that **homes within the floodplain were appraised at a value 10% less** than those in the same neighborhood outside of the floodplain. In addition, there is a provision regarding property tax under the Nebraska state **Conservation Easement Act**. Individual members also thought that, if assessed appropriately, the value of floodplain properties could decrease if a No Net Rise/Compensatory Storage standard were adopted, and there were questions regarding how this could **impact the City or County** relative to property taxes.

K. Supporting Information for Policy Recommendations

No Net Rise/Compensatory Storage Standard (Policy Item # 3)

1. It is estimated the that **hydrologic and hydraulic engineering costs** to develop in the flood fringe and meet the No Net Rise/Compensatory Storage standard will be similar to those that are incurred today for development or stream crossings within the floodway.

2. From discussions with engineering firms, the **costs to develop in the floodway** vary significantly, but typically **range between a few thousand dollars to greater than ten thousand dollars**. The replacement of stream crossing structures in the county where the replacement is going to have more flow capacity are on the low end, while more complicated stream crossings and developments with fill in the floodway can be on the high end of the range.

3. **Typical work involved for engineering** is surveying of cross sections, review of existing hydraulic models, review of hydrologic conditions, and the hydraulic modeling for the proposed structure.

4. **Examples** include hydraulic **engineering costs** of approximately $12,000 for a recent ~60-acre development project and $24,000 for the Lincoln Ballpark project (~90 acres), or about $200/acre and $300/acre respectively.

5. The table below depicts the ***average estimated*** **range in costs** for development in this area based upon discussions with engineering firms, and the **potential increase in engineering costs** for development in the floodplain that could be expected **if a No Net Rise/Compensatory Storage standard were adopted:**

Item	Cost	% of Development Cost
Total Development Costs	$35,000-$45,000/acre	100%
Existing Surveying/Engineering Costs*	$3,500-$4,500/acre	10%
Existing Land Planning Fees	$1,750-2,250/acre	5%
Additional engineering costs anticipated to meet No Net Rise/Compensatory Storage standard	Mapped/Studied Areas: Salt Creek Floodplain: $3,000 + $200/acre Other Floodplains: $3,000 + $100/acre	*Additional Costs:* 100-acre site: 0.3%-0.7% 50-acre site: 0.4% -0.7% 10-acre site: 0.9%-1.4%

* Includes floodplain costs under present day standards.

H. Executive Summaries for Technical Studies

COE Floodplain Study Results Summary

The Corps of Engineers Study results had two major components:

1. **Evaluation of alternative floodplain management strategies** utilized by other communities across the U.S. in adopting regulatory standards higher than the minimum federal requirements. Examples of other states and communities included:

   a. Tulsa, Oklahoma. Tulsa regulates based upon a 'future conditions' floodplain assuming fully urbanized conditions and requires Compensatory Storage.

   b. DuPage County, Illinois. DuPage regulates based upon a No Net Rise floodplain, assuming future conditions, with Compensatory Storage required at a 1.5:1 ratio

   c. Charlotte-Mecklenburg, North Carolina. Charlotte-Mecklenburg regulates based upon a ½-Foot Rise floodway for Flood Insurance Program purposes, with a 0.1-Foot Rise floodway utilized for local regulation.

   d. State of Montana. Montana regulates based upon a ½-Foot Rise Floodway, with residential structures required to be elevated 2 feet above 100-year flood elevation.

2. **Modeling of a 'Do Nothing' Alternative** to project the consequences of continuing to regulate based upon the current standards of the City and County (which reflect the minimum federal standards utilizing a 1-Foot Rise Floodway). Three scenarios were modeled: 1) 50% loss of flood storage; 2) 1-Foot Rise in flood heights (projected by flood insurance studies modeling flood conveyance); and 3) 100% loss of flood storage (worst-case scenario). Economic analysis was performed on the first two scenarios. Results are listed below:

COE Dead Man's Run Study (33rd to 56th St.):

Existing Floodplain: 605 structures in 100-yr floodplain
$31.9 million damage for 100-yr flood

Scenario A

50% Loss Flood Storage:

0.24' average increase in flood heights
0.48' maximum increase in flood heights
36 additional structures damaged
$2.6 million additional damage

Scenario B

1' Rise in Flood Height:

1' increase in flood heights assumed per FEMA
151 additional structures damaged
$10.9 million additional damage

Scenario C

100% Loss Flood Storage:

1.11' average increase in flood heights
2.82' maximum increase in flood heights

COE Beal Slough Study (Salt Creek to 40th St.):

Existing Floodplain:

74 structures in 100-yr floodplain
$2.2 million damage for 100-yr flood

Scenario A

50% Loss Flood Storage:

0.45' average increase in flood heights
1.57' maximum increase in flood heights
2 additional structures damaged
$0.1 million additional damage

Scenario B

1' Rise in Flood Height:

1' increase in flood heights assumed per FEMA
33 additional structures damaged
$1.9 million additional damage

Scenario C

100% Loss Flood Storage:

2.09' average increase in flood heights
4.33' maximum increase in flood heights

CDM - Executive Summary

The City of Lincoln retained Camp Dresser & McKee Inc. (CDM), in association with Gould Evans Goodman, to provide professional engineering and planning services to evaluate various floodplain management alternatives. The project consisted of evaluating the economic impacts of floodplain management alternatives for existing public infrastructure along a portion of Dead Man's Run, and in newly developed areas. The purpose of the study was to provide the City with a comparative analysis of floodplain management alternatives that would not only be a useful management tool, but an informative study that could be used to help shape future floodplain management policy. The project consisted of three primary components as summarized below.

Economic Evaluation along Dead Man's Run

The economic evaluation along Dead Man's Run was focused on a channel reach extending from 33rd Street to 56th Street. The evaluation consisted of applying three floodplain management alternatives along this reach, and evaluating the economic consequences with regards to future flood damage to existing public buildings, public access streets, and stream crossing structures. The three floodplain management alternatives included:

- No Net Rise in the existing 100-year floodplain water surface elevation (WSE), combined with Compensatory Storage. Compensatory storage requires compensation for any flood storage volume lost to buildings or fill by providing a hydraulicly equivalent volume of flood storage on the site.
- 1/2-Foot Rise in the 100-year floodplain WSE
- 1-Foot Rise in the 100-year floodplain WSE (Existing City Policy)

The economic analysis was based on existing GIS data, depth damage curves, HECRAS modeling results, and as-built drawings. A separate economic evaluation was conducted for public buildings, public access streets, and public stream crossing for each floodplain management alternative. The results of the evaluation are summarized below.

Table ES-1 Percent Reduction in Flood Damage

Type of Public Infrastructure	Percent Reduction in Annual Flood Damage		
	No Net Rise in Existing 100-yr WSE	1/2-ft Rise in 100-year WSE	1.0-ft Rise in 100-yr WSE (Existing Policy)
Public Building Annual Flood Damage Costs	100%	75%	Base
Public Access Street Annual Flood Damage Costs	27%	14%	Base
Public Stream Crossing Structure Improvement Costs	44%	6%	Base

As shown in the table, more restrictive floodplain management alternatives can significantly reduce costs associated with flood damage and capital improvements.

Economic Evaluation in New Development

An economic analysis was conducted to evaluate the impacts of four floodplain alternatives in a typical new development adjacent to a floodplain. Three land uses (residential, commercial, and industrial) and four floodplain management alternatives (1-ft Rise, 1/2-ft Rise, No Net Rise/Compensatory Storage, and CUP/PUD) were considered for a total of twelve conceptual development scenarios.

The economic evaluation was based on a hypothetical undeveloped parcel of land adjacent to a typical 1,000-foot reach of channel in Lincoln, Nebraska that had an established FEMA floodplain and floodway. The hypothetical development site area was 58 acres of undeveloped land. For each development scenario, Gould Evans Goodman developed a conceptual development layout sketch that was used to estimate the cost to develop the site.

The basis of the economic analysis was to determine the cost to develop the site, including the purchase of the property, and the cost to install streets, water and sewer mains, and electrical service. Building costs were not included in the economic analysis. The results of the evaluation are summarized in the three tables shown below.

Table ES-2 Residential Development Costs

Floodplain Management Alternative	Developable Land (ac)	Percent Cost Increase
1-ft Rise Floodway (existing policy)	40 .5 ac	Base
1/2-ft Rise Floodway	19.2 ac	+8
No Net Rise/Compensatory Storage	35.7 ac	+14
CUP	10.0 ac	-1

Table ES-3 Commercial Development Costs

Floodplain Management Alternative	Developable Land (ac)	Percent Cost Increase
1-ft Rise Floodway (existing policy)	43.5 ac	Base
1/2-ft Rise Floodway	21.5 ac	+3
No Net Rise/Compensatory Storage	22.8 ac	+21
PUD	14.5 ac	+6

Table ES-4 Industrial Development Costs

Floodplain Management Alternative	Developable Land (ac)	Percent Cost Increase
1-ft Rise Floodway (existing policy)	38.1 ac	Base
1/2-ft Rise Floodway	17.9 ac	+4
No Net Rise/Compensatory Storage	25.5 ac	+10
CUP	14.0 ac	+3

In general, the economic impact analysis found that development costs increased with more restrictive floodplain management regulations. The increase in development costs, compared to the City's existing floodplain management policy, ranged from less than 0 percent for a residential CUP development to 21 percent for a commercial no net rise/compensatory storage alternative. However, more restrictive floodplain management alternatives will provide a proactive versus reactive approach to future flooding by:

- Maintaining channel storage to reduce downstream flow increases and corresponding increases in flood elevations
- Providing appropriate set-back distances to reduce future flood damage and avoid expensive retrofit projects
- Improving water quality and the environment by preserving the riparian zone adjacent to the stream
- Enhancing the quality of life of local residences by incorporating recreational amenities within the open green spaces
- Increasing property values of property adjacent to maintained open space

Floodplain Management Alternatives and Example Programs

A qualitative assessment of various floodplain management approaches that have been successfully implemented by other municipalities across the Country was conducted. The floodplain approaches that were reviewed included:

- No Net Rise and Compensatory Storage
- Property Buyouts
- Cluster (Open Space) Development
- Greenfield Approach
- Best Management Development Practices
- Floodplain Mitigation

A fact sheet was developed for each floodplain approach, which included a brief description of the concept, a list of advantages and disadvantages, implementation considerations, a list of communities that have implemented the concept, and a reference listing. In addition, the stormwater management programs for Tulsa, Oklahoma; Lake County, Illinois; and Johnson County, Kansas, were highlighted to provide examples of nearby communities that are currently implementing various proactive floodplain management strategies.

COMP PLAN AMENDMENT NO. 04017
CHANGE OF ZONE NO. 04018
MISCELLANEOUS NO. 04001 and 04002

Lancaster County Engineering Department

DON R. THOMAS - COUNTY ENGINEER

DEPUTY- **LARRY V. WORRELL**
COUNTY SURVEYOR

DATE: March 26, 2004

TO: Nicole Fleck-Tooze
Public Works and Utilities

FROM: Don R. Thomas Don R. Thomas
County Engineer

SUBJECT: DRAFT FLOOD STANDARDS
FOR NEW GROWTH AREAS

This office has reviewed subject standards and we are pleased to see that stream crossings have been considered separately from other improvements.

Section 10.4.2 of Chapter 10 in the *Design Standards* requires a sequencing approach to designing a stream crossing. This section also allows the City to make the final determination on which alternative is chosen. We feel that our office should be allowed to make the decision on which alternative is chosen based on our analysis, and then follow the appropriate mitigation as described in *Section 10.4.3*. Should the City decide that they must make the final determination, then the City should be required to fund any additional costs.

We have no objections to other portion of the subject standards.

cc: Lancaster County Board
Allan Abbott, Public Works

DRT/DP/cm

DRT-WORK.FOR/New Flood Standards.Mem

FAX # (402) 441-8692 444 CHERRYCREEK ROAD, BLDG C LINCOLN, NEBRASKA 68528 (402) 441-7681

ITEM NO. 7.1a,b,c,d: CPA. 04017
CHANGE OF ZONE NO. 04018
MISCELLANEOUS NO. 04001
MISCELLANEOUS NO. 04002
(p.103 - Public Hearing - 3/31/04)

March 26, 2004

CITY OF LINCOLN
NEBRASKA

MAYOR COLEEN J. SENG

www.ci.lincoln.ne.us

Public Works and Utilities Department
Allan Abbott, Director
555 South 10th Street
Suite 203
Lincoln, Nebraska 68508
402-441-7548
fax: 402-441-8609

Douglas Rotthaus
Executive Vice President
Realtors Association of Lincoln
8231 Beechwood Drive
Lincoln, NE 68510-2678

RE: Proposed Flood Standards for New Growth Areas

Dear Doug:

Thank you for your letter outlining your questions and concerns regarding the proposed flood standards. Below is a response to each of your questions.

1. **Do you have an estimate of the number of acres of additional land within the affected area that will be impacted by the proposed buffering and expanded mapping?**

   Within the Tier 1 growth area, there are relatively few streams which have not already been mapped, and these streams are required today to preserve a minimum flood corridor. Within the mapped floodplain, the minimum flood corridor is generally a narrow band contained within the floodway, which is already restricted. Improved floodplain mapping will provide the most accurate flood hazard information; it may add or remove areas from the designated floodplain.

2. **Do you know the number of presently developable parcels that will be negatively affected if the proposed recommendations are implemented?**

   There are no parcels within the New Growth Areas which are presently developable for urban use, and the Comprehensive Plan designates the majority of New Growth floodplains for open space land uses. Measures needed on individual parcels within the floodplain will vary greatly from site to site depending on the type of development and the percent of the parcel within the floodplain. Note: if the proposed recommendations are not implemented, *other parcels would be negatively impacted by increased flood heights.*

LINCOLN
The Community of Opportunity

3. **Will you prepare these estimates and provide them for review by the Realtors Association of Lincoln?**

The number of additional acres that may be subject to flooding must be determined based upon hydraulic and hydrologic studies, and floodprone mapping is not yet completed for all of the Tier 1 growth area. This information will be developed as watershed studies are completed. With regard to parcels, simply counting the number which intersect with the floodplain will not provide an accurate picture of the measures needed on individual development sites.

4. **Have you estimated the effect of the proposed new floodplain standards on the availability of land for development?**

The effect is anticipated to be negligible. The assumptions of the adopted Comprehensive Plan are that future urban development will be outside the floodplain, thus the floodplain was not included in the 23 square miles designated for future urban development within Tier 1. Thus, the proposed flood standards do not substantively change the land area available for development.

5. **Have you estimated the effect of the proposed new floodplain standards on the feasible density of development, and the ability of the City and County to accommodate future growth? Please explain any assumptions made regarding the type of housing that will be built under the estimate.**

The proposed flood standards encourage and provide flexibility for higher density development outside of the floodplain. The CDM study demonstrated how density on individual sites can be used from floodplain areas through a CUP so that development is density-neutral. The CUP is a very common practice in development today. Even with traditional development patterns, the overall density of development in Tier 1 would be no different than projected because development was assumed to be outside of the floodplain. The Comprehensive Plan assumed residential development at 3 dwelling units per acre and the CDM study assumed R-4 residential development with a gross density of 3-5 dwelling units per acre.

6. **Will you consider making available relief from any recommended floodplain standards that would have the effect of reducing development potential without significant corresponding benefit from the standpoint of flood impacts?**

The proposed standards allow for project elements that have no significant impact on flood heights. The Floodplain Task Force examined alternatives which allowed for greater than 0.05' of rise in flood heights, but determined that the standards should not allow one property owner to increase the flood heights on another property owner. The standards are thus designed to provide relief to properties that would otherwise be subject

to increased flood hazards.

7. **Have you estimated the net economic impacts of the proposed floodplain standards in comparison with the existing standards? What is the estimated impact on the price of housing in the Lincoln area?**

We have estimated the total cost to *residential development in the floodplain.* The CDM study examined a scenario where 75% of the site was in the floodplain. This scenario was intended to represent the worst-case end of the spectrum, as many sites would have a smaller percentage of floodplain area. Under that scenario, the increased cost of site preparation and infrastructure for residential floodplain site development was estimated at 14% if a traditional development approach was used. There was no adverse economic impact projected if a cluster development approach was used. Because site development may be approximately 10% of total development and building costs, this may actually equate to 1.4% of the total costs. There would be no increased cost to residential development outside the floodplain.

8. **Do you have an estimate on the amount of sprawl, or construction leakage that will occur outside the three-mile limit as a result of the proposed standards?**

There is no sprawl projected as a result of the proposed standards. From a planning perspective, sprawl is poorly planned, land consumptive development designed without respect to its surroundings. Smart growth promotes conservation of natural resources and green infrastructure, and future growth for Lincoln has already been accounted for outside of the floodplain areas.

9. **Regarding urban sprawl, how many fewer people can be housed in the affected area if the proposed standards are implemented, assuming that construction styles and lot sizes remain the same?**

No fewer. See Items 5 and 8 above.

10. **Do you have an estimate of the cost of complying with these proposals? How much additional time is added to the development approval process? How much do these costs add to the price of residential and commercial land?**

We have estimated the total cost to *development in the floodplain,* using a scenario to represent the worst-case end of the spectrum where 75% of the site was in the floodplain. The CDM study estimated the increased cost for private development in the floodplain at 14%, 21%, and 10% for site preparation and infrastructure for traditional residential, commercial and industrial development configurations, respectively. For cluster developments, increased costs to the same types of development in the floodplain were estimated at -1%, 6%, and 3%, respectively. Projected increases relate to the land

development costs, including the purchase of the property, not to building costs. *Increased costs only apply to development within the floodplain.* There would be no increased cost to development outside the floodplain.

By contrast, the Corps of Engineers estimated the cumulative impact of our current standards on individual stream reaches in the millions of dollars - up to $10.9 million damage on Dead Man's Run and $1.9 million on Beal Slough. Reduction in flood damages to public structures in a single stream reach projected by adopting the proposed standard were estimated at 100%, 27%, and 44%, for public buildings, streets, and stream crossing structures, respectively.

11. **Do you have an estimate of the cost that would be involved in providing the type of studies that are proposed?**

Engineering and hydraulic study costs needed to meet the proposed flood standards were researched and are provided in Appendix K of the Floodplain Task Force report. This is available on the City's website at lincoln.ne.gov (look for the Floodplain Information Link). In general, there was found to be an 'economy of scale.' In evaluating engineering as a percentage of total development costs, the average estimated range in additional engineering costs to meet the proposed standard would be 0.3% to 1.4% of the total site development costs for sites in the range of 100 to 10 acres, respectively.

12. **Can you explain the factual basis for the recommendations for such things as allowable rise and mitigation ratios and demonstrate why such recommendations are appropriate in light of the particular circumstances for the Lincoln area? Are there objective studies to back these recommendations?**

There is a good explanation of allowable rise and mitigation ratios on page 8 of the Floodplain Task Force Report. The reason for the recommendation is outlined well on pages 7-9 of the report, which generally describes the Task Force discussion regarding the No Net Rise/Compensatory Storage Standard. Material reviewed from communities nationwide, the Corps of Engineers study and the CDM study all provided objective information as a basis for this recommendation.

13. **What are the incentives for cluster development as a way of protecting our natural and environmentally sensitive areas within the floodplain?**

The incentive proposed for cluster development is to provide a dwelling unit bonus of up to 20% if development substantially protects floodplain or floodprone areas through a CUP. This would be in addition to the provisions which already exist for the protection of natural environmentally sensitive areas in AG and AGR districts, and includes residential districts in those eligible for bonuses.

14. **Can you explain more clearly what the Task Force intends by the concept of an "appropriate" density bonus? What is the intended nature of the permanent conservation easement that would be a condition of receiving a density bonus?**

'Appropriate' means that the bonus allotment should be proportionally equal to the amount of floodplain preserved on the site and the size of the lot. The intent of the permanent conservation easement is to insure that if density is utilized from the floodplain elsewhere on the site, the natural functions of the floodplain are permanently protected.

15. **How will the proposed sequencing approach be implemented and by what standards will that approach be evaluated?**

Details regarding how the sequencing approach would be implemented can be found on page 142 and 143 of the proposed standards, within the Drainage Criteria Manual. Sequencing for avoidance, minimization, and mitigation was intended by the Task Force to be patterned after the Corps of Engineers 404 permit sequencing process for wetlands. Selection of a practicable alternative is intended to include economic considerations.

If you have further questions, I can be reached at 441-6173 or ntooze@ci.lincoln.ne.us.

Sincerely,

Nicole Fleck-Tooze
Special Project Administrator

cc: Mayor Coleen Seng
Ann Harrell - Mayor's Office
Planning Commission
Allan Abbott, Ben Higgins, Devin Biesecker, Rock Krzycki - PW/U Dept.
Mike Merwick, John Callen - Building & Safety
Marvin Krout, Mike DeKalb, Steve Henrichsen - Planning
County Engineer
Glenn Johnson - Lower Platte South NRD

Nicole Tooze
03/31/2004 09:49 AM

To: "Dave Lococo" <dlococo@isoc.net>
cc: bhiggins@ci.lincoln.ne.us, "Brian Carstens" <Brian@CarstensandAssociates.com>, "Bruce Rediger" <cherswebb@aol.com>, "Jayne Snyder" <jaynesnyder@apta.org>, "Judy Lococo \(Judy Lococo\)" <jlassoc@isoc.net>, "Joseph Lococo" <joeycocojo@netscape.net>, mdekalb@ci.lincoln.ne.us, ntooze@ci.lincoln.ne.us, Jean L Walker/Notes@Notes
Subject: Re: Comprehensive Plan Amendment

Dave, thank you for your comments. I am copying this email to the Planning Department in order that they can forward your comments to the Planning Commission as well.

Nicole.

"Dave Lococo" <dlococo@isoc.net>

"Dave Lococo" <dlococo@isoc.net>
03/31/2004 09:18 AM

To: <ntooze@ci.lincoln.ne.us>, <bhiggins@ci.lincoln.ne.us>, <mdekalb@ci.lincoln.ne.us>
cc: "Judy Lococo \(Judy Lococo\)" <jlassoc@isoc.net>, "Brian Carstens" <Brian@CarstensandAssociates.com>, "Bruce Rediger" <cherswebb@aol.com>, "Jayne Snyder" <jaynesnyder@apta.org>, "Joseph Lococo" <joeycocojo@netscape.net>
Subject: Comprehensive Plan Amendment

Nicole,

You have asked for comments regarding the proposed Comprehensive Plan Amendment that incorporates the recommendations of the Mayor's Floodplain Task Force for Lincoln's New Growth Areas. The following is my response. Please include this in your deliberations and enter this into the public record.

Dave Lococo

The proposed Comprehensive Plan Amendment should itself be amended to accommodate the impact of the South Bypass and the 27th St. extension especially in the area near Salt Creek and Saltillo Road.

1. One of the recommendations from the Mayor's Floodplain Task Force was that "The City and County should continue to develop and improve a comprehensive, watershed approach to floodplain mapping which recognizes the community interest and responsibility for the prevention of future flood damages. Accurate floodplain mapping should be a priority to which specific resources are dedicated, utilizing the latest technology and data available, and should be furthered through partnerships with other agencies."
   The Plan Amendment does not identify the South Bypass on any of the proposed map changes. This is important because the location of this Bypass will impact multiple existing waterways. It is currently impossible at this time to perform accurate floodplain mapping. Consideration of the future impact the South Bypass will have on the shape and nature of the flood plain and the inability to accurately identify flood-prone areas should be made part of the Comprehensive Plan Amendment.

2. Another recommendation from the Mayor's Floodplain Task Force was that "The City and County should develop and implement a continuing floodplain buyout program, which is sensitive to the need to minimize impacts on neighborhoods and historic districts. Special emphasis should be placed upon sites that provide multiple benefits. These include opportunities to develop contiguous open space, preserve environmental resources, and to mitigate flood damage by

providing additional detention for flood water during major storm events. An evaluation should be performed to identify potential funding sources, and where possible, the City and County should form partnerships and pool resources with other public agencies. Eminent domain should be used to acquire property only as a last resort."
It is not apparent any attempts to fund such a program have been implemented. Even if funds were available, FEMA will not allow the purchase of easements within the Beltway limits of construction. The State will also not allow any activity within the limits of construction. Consideration of these special conditions should be made part of the Comprehensive Plan amendment, and provisions made to mitigate the impact on existing properties. Such provisions could include an extension of time to file a fill permit based on the existing standard.

Respectfully Submitted,

Dave Lococo, Managing Partner
Lococo Venture Group, LLC

IN SUPPORT

ITEM NO. 7.1a,b,c,d: CPA.04017
CHANGE OF ZONE #04018
MISC.04001
MISC.04002
(p.103 - Public Hearing - 3/31/04)

"Moni"
<musasz@neb.rr.com>
03/29/2004 08:32 PM

To: <plan@ci.lincoln.ne.us>
cc:
Subject: flood plain standards

Dear Commissioners,

Please support the flood plain task force's proposals. I question whether it goes far enough for clearing the flood plain but definitely is a good start!

Thank you.

Moni Usasz
3340 S. 31
Lincoln, NE 68502

IN SUPPORT

ITEM NO. 7.1a,b,c,d: CPA.04017
CHANGE OF ZONE #04018
MISC. No. 04001
MISC. No. 04002
(p.103 - Public Hearing - 3/31/04)

March 29, 2004

Planning Commission
555 S. 10th St.
Lincoln, NE 68508

Dear Commissioners,

I am writing regarding the proposed flood standards for new growth areas. I will not be available to testify at the public hearing, so please take a moment to read my letter.

When the Mayor's Floodplain Task Force was initially formed, I was not optimistic. I felt that there were too many people on the Task Force there to guard their financial interests and that the Task Force would not produce anything meaningful. I am pleased to say that I was wrong.

The proposal presented by the Task Force represents a balanced solution to a challenging problem. The Task Force is to be lauded for their dedication of effort. The highest praise that you can give is to recommend approval of their proposal without "watering" it down.

You have undoubtedly been "flooded" with inputs from both sides of the issue and the public hearing is sure to be a long one. As you read and listen, pay attention to who is saying what. I am guessing that the majority of the people who are arguing to weaken the proposed standards stand to gain financially from their efforts if they succeed, while the majority of the people trying to keep the standards intact have nothing to gain financially if they succeed. Says a lot, doesn't it?

Moving to get standards for new growth areas in place before tackling standards for existing urban areas does make sense. However, don't let the thornier issue of existing urban area standards sit on the "to do" list too long. The amount of fill that is going into the floodplain is skyrocketing as developers move to get ahead of the standards that they know will eventually be put into place. Don't let those standards come too late to be of any value.

The Task Force has forged a solid proposal. The professionals in the Planning and Public Works Departments support it. Please keep support it. And finally, remember the golden rule:

No Adverse Impact.

Sincerely,

Michael J. Carlin
Member, Friends of Wilderness Park
2700 West Paddock Rd.

Lincoln, NE 68523
420-9092

Cc: Mayor Seng
City Council
County Board

"Dee Mullet"
<mullet@neb.rr.com>
03/30/2004 11:44 PM

To: <plan@ci.lincoln.ne.us>
cc:
Subject: Flood Plain

City Council-
Please protect Wilderness Park & pass the Flood Plain Ordinance. This is vital.
Thank you,
Doc Mullet

COMPREHENSEVE PLAN AMENDMENT NO. 04017
CHANGE OF ZONE NO. 04018
MISCELLANEOUS NO. 04001
MISCELLANEOUS NO. 04002

Jean L Walker

04/01/2004 08:32 AM

To: Jane H Kinsey <jakin3@juno.com>
cc: Marvin S Krout/Notes@Notes, Michael V Dekalb/Notes@Notes, Ray F Hill/Notes@Notes, Nicole Tooze/Notes@Notes, glenn@lpsnrd.org, (bcc: Jean L Walker/Notes)
Subject: Re: Flood Plain Ordinance

Thank you for submitting your comments, which will become part of the record on these applications for Flood Standards in New Growth Areas and will be forwarded to the City Council. The Planning Commission voted unanimously to approve the proposal, with two amendments. The public hearing before the City Council is anticipated to be held on Monday, April 26, at 5:30 p.m.

--Jean Walker, Administrative Officer
City-County Planning Department
441-6365
Jane H Kinsey <jakin3@juno.com>

Jane H Kinsey <jakin3@juno.com>

03/31/2004 02:22 PM

To: plan@ci.lincoln.ne.us
cc:
Subject: Flood Plain Ordinance

Dear Members,
Please pass this ordinance in order to protect our woodlands in Lincoln.
Thank you.
Jane H.Kinsey

COMPREHENSIVE PLAN AMENDMENT NO. 04017, CHANGE OF ZONE NO. 04018, MISCELLANEOUS NO. 04001, and MISCELLANEOUS NO. 04002, TO ADOPT FLOOD STANDARDS FOR NEW GROWTH AREAS.

PUBLIC HEARING BEFORE PLANNING COMMISSION: March 31, 2004

Members present: Pearson, Carlson, Sunderman, Taylor, Larson, Carroll, Marvin and Bills-Strand; Krieser absent.

Planning staff recommendation: Approval.

Ex Parte Communications: None.

Mike DeKalb of Planning staff submitted three new items of communication in support, including an electronic mail message from Dave Lococo concerned about the South Beltway and that funding may not be available for purchase of easements, etc.

Proponents

PRESENTATION BY THE APPLICANT:

1. **Allan Abbott, Director of Public Works and Utilities,** began the applicant presentation, stating that the impact of development in the floodplain has been actively discussed in this community for at least the five years he has been with the city. In 2000, there was a group of citizens that proposed a moratorium on floodplain development. In 2001, the then Mayor Wesely proposed an interim "no net rise" standard to address the risk of increased flooding. There was a great deal of discussion at that time that enough information was not available to implement those standards. The Mayor's Floodplain Task Force was then formed, which worked for the next 18 months and developed guidelines, suggestions and ideas from which these proposed standards were developed. These proposed standards are the result of 18 months of work by the committee. The standards, as proposed, are the culmination of a great deal of work by everyone involved.

2. **Glenn Johnson, Lower Platte South NRD,** provided background information:

- Mayor Wesely appointed a 16-member task force to formulate recommendations for development of floodplain standards to address the development of areas in the floodplain, while being sensitive to business, environmental and